ELSC conference #6 - Information, Control, and Learning - The Ingredients of Intelligent Behavior to be held in Jerusalem, on September 26-28, 2016.
Information, Control, and Learning - The Ingredients of Intelligent Behavior

September 26-28, 2016
The Brindell and Milton Gottlieb Auditorium
School of Computer Science and Engineering
Edmond J. Safra Campus
The Hebrew University of Jerusalem

Invited Speakers:
Nihat Ay, Max Planck Institute for Mathematics in the Sciences
Naama Brenner, Technion - Israel Institute of Technology
Andrea Cavagna, ISC - Institute of Complex Systems
Kenji Doya, Okinawa Institute of Science and Technology
Amir Globerson, Tel Aviv University
Bert Kappen, Radboud University
Máté Lengyel, University of Cambridge
Shie Mannor, Technion - Israel Institute of Technology
Ron Meir, Technion - Israel Institute of Technology
Sanjoy Mitra, Massachusetts Institute of Technology
Daniel Polani, University of Hertfordshire
Alex Pouget, University of Geneva
Yifat Prut, The Hebrew University
Reza Shadmehr, Johns Hopkins University
Shai Shalev-Shwartz, The Hebrew University
Tatyana Sharpee, Salk Institute for Biological Studies
Satinder Singh, University of Michigan
Stefano Soatto, University of California, Los Angeles
Fritz Sommer, University of California, Berkeley
Susanne Still, University of Hawaii
Takashi Tanaka, KTH Royal Institute of Technology
Daniel Wolpert, University of Cambridge

Organizing Committee:
Naftali Tishby, The Hebrew University
Yair Weiss, The Hebrew University
Israel Nelken, The Hebrew University

For further details and registration, visit our website: http://www.e1sc.huji.ac.il/e1sc-conference
The Synergy between Information and Control

Sanjoy Mitter? Massachusetts Institute of Technology, USA -

Information and Entropy Flow in Estimation and Control

Susanne Still [Online video talk] ? University of Hawaii, USA -

Optimal Information Processing: Dissipation and Irrelevant Information

Bert Kappen? Radboud University, Netherlands and University College London, UK

Integrating control, inference and learning. Is it what the brain does?

Session 2: Sensorimotor Loops and Decision Making

Chairs: Israel Nelken & Naama Brenner

Kenji Doya ? Okinawa Institute of Science and Technology, Japan -

Neural Circuit Mechanisms of Mental Simulation

Daniel Wolpert ? University of Cambridge, UK -

Sensorimotor decisions

Yifat Prut ? The Hebrew University of Jerusalem -

Inhibitory control of motor timing

Fritz Sommer ? University of California, Berkeley, USA -

Information-theory based policies for exploratory learning in sensorimotor loops

Session 3: Cognition and Embodiment

Chair: Ron Meir

Andrea Cavagna ? Institute for Complex System, Italy -

Information transfer and behavioral inertia in starling flocks

Shai Shalev-Shwartz ? The Hebrew University of Jerusalem & Mobileye -

Deep Reinforcement Learning for Driving Policy

Nihat Ay - Max Planck Institute for Mathematics in the Science, Germany

Mathematical Aspects of Embodied Intelligence

Daniel Polani ? University of Hertfordshire, UK -

Informational Drivers of Cognition

Session 4: Neural coding and representation

Chair: Yifat Prut
Reza Shadmehr - Johns Hopkins University - Encoding of action by the Purkinje cells of the cerebellum

Ron Meir - Technion - Israel Institute of Technology, Israel - Optimal Neural Codes for Estimation and Control

Máté Lengyel - University of Cambridge, UK - Neural variability and sampling-based probabilistic representations in the visual cortex

Tatyana Sharpee - Salk Institute for Biological Studies, USA - How invariant feature selectivity is achieved in cortex

Session 5: Learning to decide and behave

Chair: Amir Globerson

Alexandre Pouget - University of Geneva, Switzerland - Optimal policies for value-based decision making

Satinder Singh Baveja - University of Michigan, USA - Rethinking State Action and Reward in Reinforcement Learning

Shie Mannor - Technion - Israel Institute of Technology - Regularization and Robustness in Reinforcement Learning

Takashi Tanaka - KTH Royal Institute of Technology, Sweden - LQG Control with Minimum Directed Information: A Semidefinite Programming Approach

Session 6: Predictions, Adaptation and Planning

Chair: Shie Mannor

Naama Brenner - Technion - Israel Institute of Technology, Israel - Exploratory adaptation in random networks

Amir Globerson - Tel Aviv University, Israel - Variational Conditional Probabilities

Israel Nelken - The Hebrew University of Jerusalem, Israel - Information-theoretic bounds and brains: prediction and planning

Talk abstracts (PDF)

Directions to the conference venue click here
For questions and comments please contact Alona Shani-Narkiss: alona.narkiss@elsc.huji.ac.il

Video lectures channel on [YouTube](http://elsc.huji.ac.il)

Tags: Events

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